REMARKS

Claim 30 is added and therefore claims 14 to 15 and 19 to 30 are currently pending and being considered (since claims 10 to 13 and 16 to 18 are withdrawn).

Reconsideration of the application is respectfully requested based on the following remarks.

With respect to paragraph 3 of the Final Office Action, claim 20 was rejected under 35 U.S.C. § 112, first paragraph, as failing to comply with the written description requirement.

Applicants have clarified the features of claim 20. The clarified features of claim 20 are fully supported by the specification. For the convenience of the Office, some portions of the specification which provide support for the clarified features of claim 20 are reproduced as follows:

> It is especially advantageous that the fault pattern is transmitted digitally in an eight-bit word, here given the abbreviation MONI, in a 16-bit frame. The MONI word can have different fault indications written to it using different read instructions. The number of transmittable fault modes can thereby be increased. In this word, the fault type or modes are identified by flags. A variety of fault modes and unusual operating states that have been detected are thus indicated by way of this word. Fault modes indicate that at least one sensor operating parameter is outside a predefined range.
>
> . . . .
>
> When at least one value that denotes a fault is set to "1", another value is also set to one. This makes it possible to indicate, by way of a single bit or flag, whether any sensor-internal fault has been identified. This flag is transmitted as status information along with every regular sensor output value transmission. If necessary, i.e. in the event the summarizing value indicates a fault state, the detailed fault pattern can then be requested by way of the available read instructions. This procedure of requesting as necessary saves transmission and processing capacity. The allocation of read instructions numbered 1, 2, etc. to the fault information is defined in the MONI word. Two read instructions are used here, i.e. two eight-bit words of fault information can be indicated.

(the substitute specification, page 2, line 29, to page 4, line 2; emphasis added); and as follows:

> FIG. 2 schematically shows a data frame of the requested 16-bit MISO word, which is subdivided into a first part 12 and a second part 11. The

> respective fault word 11 (MONI) is transmitted in second part 11. Two fault words, which can be read out using different MOSI instructions, can be transmitted here. This can occur cyclically or only when necessary. That necessity is indicated in the standard rotation rate transmission by setting a bit that indicates an unusual operating state. That bit is set when at least one indicatable fault instance is deemed to exist.

(the substitute specification, page 9, lines 5-14; emphasis added). Therefore, claim 20, as presented, is fully supported, and it is respectfully requested that this written description rejection of be withdrawn.

With respect to paragraph 4 of the Final Office Action, claims 14-15 and 19-29 were rejected under 35 U.S.C. § 112, first paragraph, as to the enablement requirement. In particular, the Final Office Action states that "the sensor is essentially a black box with no description of the internals thereof," and that the disclosure is therefore insufficient to enable the claimed sensor.

It is respectfully submitted that the present application does provide sufficient disclosure of the internals of the sensor and that further description is unnecessary in light of the knowledge of one of ordinary skill in the art. Furthermore, as evidence that further description is unnecessary in light of the knowledge of one of ordinary skill in the art, Applicants point to the very same reference the Final Office Action asserts anticipates the present claims (without ceding that said reference necessarily constitutes prior art, however). These points are discussed in further detail as follows.

The present application does provide sufficient disclosure of the internals of the sensor. The specification specifically describes exemplary components of the sensor as including a phase-lock loop, an analog-to-digital converter, a digital-to-analog converter, a capacitor, a voltage converter, an offset controller, a common-mode controller, a digital sensor interface, a micromechanical structure, a detection circuit and a drive circuit. For example, the specification discloses the following:

> In the context of this monitoring, advantageously at least one phase-lock loop of the sensor and/or at least one control voltage is monitored in terms of a predefined range, and/or the output values of at least one analog/digital converter are monitored in terms of a predefined range, and/or the input and/or output values of at least one digital/analog converter are monitored in terms of a predefined range, and/or the dynamic limits of at least one capacitance/voltage converter are monitored in terms of a predefined range, and/or at least one offset controller is monitored in terms of a predefined range, and/or at least

> one common-mode controller is monitored in terms of departure from a predefined range, and/or at least one variable representing a sensor oscillation is monitored in terms of a predefined range, and/or impermissible values of at least one counter are monitored as defined.

(the substitute specification, page 3, lines 4-23, emphasis added); and as follows:

> A practical prerequisite for implementation of the invention is a digital sensor interface . . . .
>
> The capacitance/voltage converter in which the measured variable is mapped by way of the sensor principle into a capacitance or a capacitance change is outside its predefined range; the value at the analog/digital converter in the drive path, which is an oscillating sensor, is outside its predefined range; the phase-lock loop is not synchronized; the offset controller is outside its predefined range; the sum value and/or difference value of the common-mode control circuit in the drive circuit and/or in the detection circuit is outside its predefined range; the amplitude of the sensor oscillation is outside its predefined range. The drive circuit of a rotation rate sensor serves to generate a defined (i.e. usually regulated) oscillating or rotational motion with which, in the presence of a rotation rate, a measurable effect (for example, a deflection of a micromechanical structure orthogonally to that motion) is generated using e.g. the principle of conservation of angular momentum. This effect is measured or sensed, and processed, in the detection circuit.

(the substitute specification, page 7, line 6, to page 8, line 2, emphasis added); and as follows:

> FIG. 1 shows the sensor and the control unit according to the present invention in a block diagram. Located in a control unit 10 is a sensor 1 that is connected via a digital line 6 to a processor 7. Processor 7 is connected via a data input/output to a memory 8. Processor 7 is connected via a data output to the remainder of restraint system 9. A so-called safety semiconductor 11, i.e. a further processor or a monitoring circuit that also evaluates the sensor output values and can influence the enabling of restraint means, can be connected to digital line 6. Located in sensor 1 is a sensor element 2 for acquiring a measured variable, e.g. rotation rates or rotational accelerations. The sensor element can chiefly be a micromechanical sensor structure in which drive and detection occur capacitatively. Sensor element 2 is connected to a functional and monitoring module 3 where capacitance/voltage conversion, analog/digital conversion of the sensor signal, driving and regulation of the sensor oscillation, and sensor-internal monitoring functions can be implemented. Functional and monitoring module 3 is connected via a data output to a transmitter module 4. Transmitter module 4 is connected to digital line 6, which is embodied here as a so-called SPI (serial peripheral interface) line.

(the substitute specification, page 8, lines 10-31, emphasis added).

Moreover, further description of the internals of the sensor is unnecessary in light of the knowledge of one of ordinary skill in the art. Applicants respectfully submit that one of ordinary skill in the art, having at their disposal components including <u>a phase-lock loop, an analog-to-digital converter, a digital-to-analog converter, a capacitor, a voltage converter, an offset controller, a common-mode controller, a digital sensor interface, a micromechanical structure, a detection circuit, a drive circuit</u>, would certainly be enabled to construct and use a sensor having the features of claims 14-15 and 19-29. As evidence of this, Applicants point to the very reference used by the Final Office Action as part of an anticipation rejection (itself discussed below) of the presently claimed subject matter. That is, U.S. Patent No. 6,721,639 to Raypole et al. (the "Raypole" reference) provides no specific details of the internals of the steering sensor 20, steering module 30, speed sensor 26, RTD 22, and control module 24 depicted in FIG. 1 of the "Raypole" reference, and yet this level of detail was considered sufficient for this patent to issue. Therefore, Applicants submit that the level of detail concerning the internals of the sensor of the claimed control unit is sufficient to enable one of ordinary skill in the art to practice the claimed subject matter, and it is respectfully requested that the rejections of claims 14-15 and 19-29 be withdrawn.

With respect to paragraph 6 of the Final Office Action, claims 14, 19, 21-24 and 27-29 were rejected under 35 U.S.C. § 102(e) as anticipated by Raypole et al., U.S. Patent No. 6,721,639 (the "Raypole" reference).

As regards the anticipation rejections of the claims, to reject a claim under 35 U.S.C. § 102(e), the Office must demonstrate that each and every claim feature is identically described or contained in a single prior art reference. (<u>See</u> *Scripps Clinic & Research Foundation v. Genentech, Inc.*, 18 U.S.P.Q.2d 1001, 1010 (Fed. Cir. 1991)). As explained herein, it is respectfully submitted that the Final Office Action does not meet this standard, for example, as to all of the features of the claims. Still further, not only must each of the claim features be identically described, an anticipatory reference must also enable a person having ordinary skill in the art to practice the claimed subject matter, namely the claimed subject matter of the claims, as discussed herein. (<u>See</u> *Akzo, N.V. v. U.S.I.T.C.*, 1 U.S.P.Q.2d 1241, 1245 (Fed. Cir. 1986)).

As further regards the anticipation rejections, to the extent that the Final Office Action may be relying on the inherency doctrine, it is respectfully submitted that to rely on

inherency, the Examiner must provide a "basis in fact and/or technical reasoning to reasonably support the determination that the allegedly inherent characteristics *necessarily* flows from the teachings of the applied art." (See M.P.E.P. § 2112; emphasis in original; and see *Ex parte Levy*, 17 U.S.P.Q.2d 1461, 1464 (Bd. Pat. App. & Int'f. 1990)). Thus, the M.P.E.P. and the case law make clear that simply because a certain result or characteristic may occur in the prior art does not establish the inherency of that result or characteristic. Accordingly, it is respectfully submitted that any anticipation rejection premised on the inherency doctrine is not sustainable absent the foregoing conditions.

Independent claim 14 reads as follows:

> 14. A control unit comprising:
>
> a sensor comprising a sensor element, at least one digital interface, and means for transmitting a fault pattern via the at least one digital interface, wherein the fault pattern is a digital fault pattern comprising individual bits corresponding to different fault flags; and
>
> a processor that receives at least one signal from the sensor via the at least one digital interface, wherein the at least one sensor signal includes the fault pattern and the processor evaluates the at least one sensor signal as a function of the fault pattern.

The "Raypole" reference does not identically disclose (or even suggest) at least the above-identified features of independent claim 14. That is, the "Raypole" reference does not identically disclose (or even suggest) a sensor having a means for transmitting a fault pattern via a digital interface, wherein the fault pattern comprises individual bits corresponding to different fault flags. Instead, the "Raypole" reference shows a steering sensor in FIG. 1 which only transmits digital measurement values, not a digital fault pattern having bits corresponding to fault flags. The Raypole reference states: "Steering sensor 20 converts the sensed changes to three digital outputs: Digital--Phase A, Digital--Phase B, and Digital--Index." (See col. 2, lines 51-53, emphasis added.) However, neither the Digital-Phase A, Digital – Phase B, nor the Digital – Index signals are fault patterns containing individual bits corresponding to fault flags, as required by the features of claim 14. That is, a sensed measurement is not equivalent to a fault pattern or a fault flag. The "Raypole" reference instead determines fault patterns in separate modules, e.g., the real-time damping (RTD) controller module 22 and other controller modules 24. For example, the Raypole reference states: "The digital outputs can be supplied to a real time damping (RTD) controller module 22 and other controller modules 24 requiring digital steering data. The RTD controller module 22 and other controller modules 24 also receive vehicle speed information from a

speed sensor 26 to allow digital steering sensor fault detection." (See col. 2, lines 53-58, emphasis added.)

Thus, because the "Raypole" reference does not determine fault patterns in the sensor, and instead determines such patterns in a separate control module, it does not and cannot identically disclose (or even suggest) the presently claimed sensor having a means for transmitting a fault pattern comprising individual bits corresponding to different fault flags. Accordingly, claim 14, as well as its dependent claims, are not anticipated by the "Raypole" reference, and it is therefore respectfully requested that the anticipation rejections of claims 14, 19, 21-24 and 27-29 be withdrawn.

With respect to paragraph 8 of the Final Office Action, claims 15, 20, 25 and 26 were rejected under 35 U.S.C. § 103(a) as unpatentable over the "Raypole" reference.

To reject a claim as obvious under 35 U.S.C. § 103, the prior art must disclose or suggest each claim feature and it must also provide a motivation or suggestion for combining the features in the manner contemplated by the claim. (See Northern Telecom, Inc. v. Datapoint Corp., 908 F.2d 931, 934 (Fed. Cir. 1990), cert. denied, 111 S. Ct. 296 (1990); In re Bond, 910 F.2d 831, 834 (Fed. Cir. 1990)). Thus, the "problem confronted by the inventor must be considered in determining whether it would have been obvious to combine the references in order to solve the problem" , Diversitech Corp. v. Century Steps, Inc., 850 F.2d 675, 679 (Fed. Cir. 1998).

Claims 15, 20, 25 and 16 depend on independent claim 14, and are therefore also allowable for the reasons explained above, since the critical deficiencies of the "Raypole" reference with respect to this independent claims have not been cured. Therefore, withdrawal of the obviousness rejections of claims 15, 20, 25 and 16 is respectfully requested.

Regarding new claim 30, it does not add any new matter and is supported by the specification. This claim is allowable at least because it contains features similar to those of claim 14, and it is therefore allowable for essentially the same reasons as claim 14.

Accordingly, claims 14 to 15 and 19 to 30 are allowable.

CONCLUSION

Applicants respectfully submit that all pending claims of the present application are allowable. It is therefore respectfully requested that the rejections (and any objections) be withdrawn. Prompt reconsideration and allowance of the present application are therefore respectfully requested.

Respectfully submitted,

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